

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:

David W. Herbage

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Serial No.: **10/722,234**

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Art Unit: **3641**

Examiner: **Clement, Michelle Renee**

Attorney Docket No.: **A310429.1US**

For: **Countermeasure System and Method of Using the Same**

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

REPLY TO EXAMINER'S ANSWER

Dear Sir:

Below is the Appellant's Reply to Examiner's Answer mailed December 12, 2007 in further support of the Appeal filed November 1, 2006 in the above referenced application. Appellant offers these arguments in addition to those offered in its Appeal Brief filed September 12, 2007.

The Cited Prior Art Does Not Teach All the Claim Limitations Of The Present Invention

In order to establish a *prima facie* case of obviousness, Examiner must cite prior art which teaches or suggests all the claim limitations. MPEP 706.02(j). “Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or nonobviousness of the subject matter is determined.” *KSR International Co. v. Teleflex, Inc.*, 127 S.Ct. 1727, 1734 (2007). The prior art identified does not disclose each and every element of the present invention; therefore, the present invention is not obvious.

In Becker (U.S. Patent No. 4,662,265), neither the rotatable weapon support platform 9 nor the bodies 1 and 2 which support platform 9 are analogous to the launch tube of the present invention. Becker discloses a system for horizontally orienting a rotatable platform for a weapon, not a system for rotating a launch tube as Examiner suggests. A tube is a hollow, usually cylindrical body. A platform is a horizontal surface or structure raised above the level of the surrounding surface. The launch tube in the present invention is capable of receiving the countermeasure cartridge. The platform 9 in Becker can not receive a countermeasure cartridge. The weapon 5, which could include a launch tube, is merely mounted to the platform 9 in Becker. [col. 2, ll. 55-57]

In Becker, the platform 9 is mounted on bodies 1 and 2 which share a central axis 11. [col. 2] The weapon 5 is mounted on the support platform 9 on a trunnion bearing 35 on which it is swingably mounted in its locked position. [col. 2, ll. 57-58] Nothing in Becker discloses where on the support platform 9 the weapon 5 is mounted. Nothing in Becker discloses or even implies that the weapon 5 can be oriented substantially vertically such that it shares a central axis with platform 9 or bodies 1 and 2. Further, the weapon 5 in Becker is in the locked

position during the entire rotation. [cols. 3-4] Weapon 5 is not aimed until the platform 9 is horizontally positioned. [col. 4, ll. 40-44] The rotatable weapon support platform of Becker does not include a means for rotating the launch tube about its axis for training the countermeasure in azimuth while disposed on the base.¹

Nor is it proper to refer to the weapon support platform of Becker as an outer launch tube to support a rejection of dependent claims 46-53. [Examiner's Answer, p.4] The weapon 5 of Becker is fixed to the flat surface of platform 9, otherwise, weapon 5 could not swing about truunion bearing pivot 35. Becker does not disclose a launch tube housed in an outer tube affixed to the base.

The prior art references do not disclose all the elements of the claimed invention; therefore, Applicant's invention should not have been rejected as obvious and the Board should overrule the rejection.

One of Skill in the Art Would Not Combine the Cited References to Form the Disclosed Invention

For an obviousness rejection consideration should be given to "interrelated teachings of multiple patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *KSR*, 127 S.Ct at 1740-41. In *KSR* the Supreme Court merely rejected a rigid and mandatory application of the TSM test, it did not discard the parameters of the test altogether. *Id.* at 1741.

¹ Claim 44 refers to training the countermeasure cartridge in azimuth both in the preamble and in the body of the claim, not just in the preamble as Examiner suggests. [Examiner's Answer, p. 9]

[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. . . . [I]t can be important to identify a reason that would have prompted a person of ordinary skill in the art in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions, in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

Id. Examiner is required to provide an apparent reason to combine the known elements in the fashion claimed by the patent at issue.

If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); MPEP 2143.01. Further, if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959); MPEP 2143.01. Appellant offers the following reply in addition its arguments in pages 10-14 of its brief.

It would be contrary to the intended purpose and principle of operation to combine Becker, Gassler (U.S. Patent No. 4,681,014) and Finkelstein, et al. (U.S. Patent No. 3,245,318) to create a launch tube having a central axis, the tube being disposed substantially vertically on the base, the tube having a zero twist longitudinal keyway therein for effecting non-rotational, axial movement relative thereto.

First, Becker discloses an arrangement for horizontally orienting a rotatable platform for a weapon. [col. 1, ll. 32-34] The platform 9 is affixed to a vehicle roof 10. [col. 2, ll. 28-29] The platform 9 is horizontally positioned while the weapon is in a stationary position [col. 3-4], then the weapon 5 is unlocked and aimed. [col. 4, 40-44] A weapon of this type is not

fired vertically. Once the platform is oriented in the correct position, the weapon is trained by swinging about the truunion pivot point 35 to obtain the appropriate trajectory. The weapon 5 in Becker would never be launched vertically.

Second, the weapon 5 of Becker which is mounted on a vehicle 10 would never be lowered into the launch tube as is the missile in Gassler. It would be contrary to the system design in Becker to require the soldier to exit the vehicle, orient the weapon vertically and lower the missile into the launch tube. If the missile is loaded from the inside the vehicle, it would be positioned in the base of the tube, not lowered into the tube. Therefore, there is no need to combine these two references as suggested to decrease cable winding, a phenomenon that occurs when a missile is lowered into a launch tube on a cable.

Third, eliminating the rotation of the missile during launching in Becker by combining the missile alignment system of Gassler would not increase precision as suggested. [Examiner's Response, p.5] As stated above, the weapon 5 of Becker is aimed after rotation of the platform 9 by swinging the weapon about its truunion pivot point 35. [col. 4, 40-44] The weapon 5 of Becker is trained by pointing its barrel at a certain trajectory. It is not necessary to control the rotation of the weapon 5 during on-loading to aim the weapon accurately.

Similarly, with respect to Finkelstein, there is no need to control the rotation of the weapon 5 of Becker during launch to increase precision. Finkelstein discloses a flotation missile launcher designed for launching a missile from a body of water so that the missile is easily handled and serviced while waterbourne. [col. 1, ll. 15-18]. As discussed in Appellant's Brief, there is absolutely no suggestion or motivation to combine Finkelstein, directed to a waterbourne, flotation missile launcher, with Becker, directed to missile launch platform which attaches to vehicles, and Gassler, directed at missile launching from large silos "to obtain a

system that prevented rotation of the missile during the launching stage.” [Examiner’s Response, p. 5]

There is no apparent reason to combine Grosso (U.S. Patent No. 5,425,514) with Becker, Gassler, and Finkelstein to obtain the claimed invention. The suggestion or motivation for combining these references is identified as “to obtain a defense system that had a higher probability of hitting the target.” [Examiner’s Answer, p.6] As discussed in Appellant’s Brief, the countermeasure system of the present invention is a diversionary defense system where countermeasure cartridges are aimed quickly with little regard for precision. Grosso teaches an offensive system related to “artillery or gun systems” that utilize spin-stabilized projectiles “with the ability to hone in on a target.” [col. 1, ll. 11-14].

Likewise, there is no apparent reason to combine Null (U.S. Patent No. 4,149,166) with Becker, Gassler, Finkelstein and Grosso to obtain the claimed invention. As discussed in Appellant’s Brief, Null (U.S. Patent No. 4,149,166) teaches a decoy that exhibits the same Doppler effect as the target thus re-targeting an enemy Doppler seeker. [col. 1, ll. 8 - 16]. Nothing in the current application suggests the use of the Doppler effect. It is a simple, diversionary system.

There is no apparent reason to combine the known elements in the fashion claimed by the patent at issue.

Conclusion

Applicant’s invention allows for vertical launch of a countermeasure cartridge trained only in azimuth by placing the countermeasure cartridge in the vertical launch tube which is then rotated about its own axis to train the countermeasure cartridge in azimuth by positioning the canard at a certain degree. The countermeasure cartridge is held in place during launch by a keyway in the tube which fits a key on the missile. All elements of Applicant’s invention are not

disclosed in the cited references. Moreover, there is no apparent reason to combine the known elements in the fashion claimed by the patent at issue. The reasoning suggested by the Examiner is not persuasive. Finally, the cited references are from non-analogous art. For these reasons, Appellant asserts that the obviousness rejection is improper and respectfully requests that this Board overrule the Examiner and allow the claims.

Respectfully submitted,

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